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EXAMINER

KAO, CHIH CHENG G

ART UNIT PAPER NUMBER

2882

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/758,682

Applicant(s)

KREMA ET AL.

Examiner

Chih-Cheng Glen Kao

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 is/are allowed.
- 6) ☒ Claim(s) 12-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/23/04</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: (page 10, line 2, "x-ray image 16", while reference number 16 is shown in Figure 2 as function buttons).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: (fig. 2, #19, 23, 25, and 31) and (fig. 3, #38, 46, and 48).

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet

Art Unit: 2882

submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

3. Claims 1, 7, 10-12, 14, 15, 17, and 19 are objected to because of the following informalities, which appear to be minor draft errors including grammatical and lack of antecedent basis problems.

In the following format (location of objection; suggestion for correction), the following corrections may obviate their respective objections: (claim 1, lines 4-5, “the operation”; deleting “the”), (claim 1, line 5, “the exposure settings”; deleting “the”), (claim 1, lines 6-7, “exposure settings”; inserting - -the- - before “exposure”), (claim 1, line 11, “the sensor processor”; replacing “driver/processor” with - -processor- - in line 10 of claim 1), (claim 7, line 2, “the sensor processor”; replacing “driver/processor” with - -processor- - in line 10 of claim 1), (claim 10, line 2, “the sensor processor”; replacing “driver/processor” with - -processor- - in line 10 of claim 1), (claim 11, lines 4-5, “the operation”; deleting “the”), (claim 11, line 6, “the patient”; replacing “the” with - -a- -), (claim 11, line 6, “the a x-ray image”; replacing “the a” with - -an- -), (claim 11, line 11, “a patient”; replacing “a” with - -the- -), (claim 12 line 3, “location in relation”; inserting a comma after “location”), (claim 12, line 4, “irradiated, and opposite”; deleting the comma), (claim 12, line 8, “the control panel”; replacing “the” with - -a- -), (claim 14, lines 1-2, “the exposure rate”; replacing “the” with - -an- -), (claim 14, line 2, “the dosage”;

Art Unit: 2882

replacing "the" with - -a- -), (claim 15, line 3, "the dental chair"; replacing "the" with - -a- -), (claim 15 line 4, "location in relation"; inserting a comma after "location"), (claim 15, line 4, "irradiated, and opposite"; deleting the comma), (claim 15, line 6, "the control panel"; replacing "the" with - -a- -), (claim 15, line 11, "the exposure rate"; replacing "the" with - -an- -), (claim 15, line 11, "the dosage"; replacing "the" with - -a- -), (claim 17, line 2, "the dental office"; replacing "the" with - -a- -), and (claim 19, line 2, "brightness, resolution and accuracy"; inserting a comma after "resolution").

For purposes of examination, the claims have been treated as such. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 17 and 18 recite the limitation "the control panel" in lines 1 and 2, respectively. There is insufficient antecedent basis for this limitation in the claim. Claim 15 recites a control panel in line 6. Claim 16 also recites a control panel in line 2. It is indefinite as to which control panel Claims 17 and 18 are referring.

Art Unit: 2882

6. Regarding claims 19 and 20, the phrase "may be" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Carroll et al. (US Patent 6404854).

Carroll et al. discloses a method comprising arranging an x-ray source in a desired location (fig. 1, #11), in relation to the mouth of the patient to be irradiated (fig. 1, #12 and col. 5, lines 39-41) and opposite an image sensor (fig. 1, #13); activating the x-ray source and the image sensor in a coordinated manner (abstract, lines 7-15), so as to avoid pre-integration of charge in the image sensor (fig. 4, time during the reset of sensor), and at the same time reduce risk of over-exposure (fig. 4, start readout sequence); and receiving at a control panel (fig. 8a, #81) a digitally formatted x-ray image from the image sensor (col. 2, line 59, and fig. 8a, #83).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2882

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll et al. as applied to claim 12 above, and further in view of Gaborski et al. (US Patent 5426684).

Carroll et al. discloses a method as recited above. Carroll et al. further discloses viewing the x-ray image from the control panel (fig. 8a, #81c) and storing the x-ray image (fig. 8a, #81).

However, Carroll et al. does not disclose manipulating an image to provide a diagnosis quality image.

Gaborski et al. teaches manipulating an image to provide a diagnosis quality image for clarity (fig. 1 and col. 3, lines 14-36).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Carroll et al. with the manipulating of Gaborski et al., since one would be motivated to make such a modification to improve the appearance and diagnostic quality of the image (col. 3, lines 18-21) as shown by Gaborski et al.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll et al. and Gaborski et al. as applied to claim 13 above, and further in view of Aragonés (US Patent 5694449).

Carroll et al. as modified above suggests a method as recited above.

However, Carroll et al. does not disclose measuring an exposure rate and calculating a dosage for each of multiple x-ray pictures.

Art Unit: 2882

Aragones teaches measuring an exposure rate (fig. 4, #50) and calculating a dosage (fig. 4, #52) for each of multiple x-ray pictures (fig. 4, #40).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Carroll et al. as modified above with the measuring and calculating of Aragones, since one would be motivated to make such a modification to improve image quality (col. 2, lines 32-33) as implied from Aragones.

10. Claims 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll et al., Gaborski et al., Aragones, and Hudson et al. (US Patent 2798958).

For purposes of being concise, Carroll et al. as modified above suggests a method as recited above.

However, Carroll et al. does not disclose placing a patient in a dental chair.

Hudson et al. teaches placing a patient in a dental chair (fig. 1).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Carroll et al. as modified above with the placing of Hudson et al., since one would be motivated to make such a modification to reduce patient movement for providing clearer images.

11. Claims 16, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll et al., Gaborski et al., Aragones, and Hudson et al. as applied to claim 15 above, and further in view of Sallam (US Patent Application Publication 2002/0015283).



Art Unit: 2882

12. Regarding claims 16 and 20, Carroll et al. as modified above suggests a method as recited above. Carroll et al. further discloses a PDA-type control panel (col. 6, lines 35-40).

However, Carroll et al. does not disclose a portable PDA with a flat panel display and network connections.

Sallam teaches a portable PDA with a flat panel display and network connections (abstract).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Carroll et al. as modified above with the PDA of Sallam, since one would be motivated to make such a modification to reduce apparatus size (paragraph 4) as implied from Sallam.

13. Regarding claim 17, Carroll et al. as modified above suggests a method as recited above.

However, Carroll et al. does not disclose removing a panel from a station.

Sallam further teaches removing a panel from a station (paragraph 21).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further incorporate the method of Carroll et al. as modified above with the PDA of Sallam, since one would be motivated to make such a modification for easier user handling (paragraph 21).

14. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll et al., Gaborski et al., Aragones, Hudson et al., and Sallam as applied to claim 16 above, and further in view of Tomasetti et al. (US Patent 6236712).

Carroll et al. as modified above suggests a method as recited above.

However, Carroll et al. does not disclose activating an x-ray source by pressing an exposure button located on a control panel.

Tomasetti et al. teaches activating an x-ray source by pressing an exposure button located on a control panel (col. 6, line 62, to col. 7, line 9).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Carroll et al. as modified above with the button of Tomasetti et al., since one would be motivated to make such a modification for easier user control.

***Allowable Subject Matter***

15. Claims 1-11 contain allowable subject matter.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 1 and 11, prior art does not disclose or fairly suggest a system including a sensor processor coupled to an image sensor receiving an analog output x-ray image from the image sensor, wherein the sensor processor interfaces with a source control unit for receiving exposure settings of an x-ray source, in combination with all the limitations in each respective claim. Claims 2-10 contain allowable subject matter by virtue of their dependency.

Art Unit: 2882

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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